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Edmonton Area Series Report No. 58

ALL ALBERTA STUDY 1988
(Including The Edmonton Area Study)

SAMPLING REPORT

by

Cliff Kinzel and Akin Adebayo

Population Research Laboratory
Department of Sociology
The University of Alberta

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Study Director and Principal Investigator: Harvey Krahn

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INTRODUCTION

The 1988 All Alberta Study was the second in an annual series administered by the Department of Sociology, University of Alberta, through its research facility, the Population Research Laboratory (PRL). This random sample survey of households in the province of Alberta has enabled academic researchers, local community agencies, and non-profit organizations to explore a broad spectrum of social issues in an on-going research framework in Alberta.

This report describes the sampling design, data collection methods, and weighting technique used in the 1988 All Alberta Study. Also, a brief demographic profile of the sample and a description of the data collection statistics for 1987 and 1988 are presented. Subsequent papers on findings from the 1988 AAS will be announced in the PRL's "In Summary" newsletter.

SAMPLING DESIGN

Main features of the sampling design are as follows:

1. Province of Alberta delineated into three areas.
   a. City of Edmonton for face-to-face interviewing.
   b. City of Calgary for telephone interviewing.
   c. Remainder of the Province for telephone interviewing (Other Alberta Areas).
2. Two-stage selection process.
   a. Selection of households.
   b. Selection of respondent with each household.

To retain the comparability of the Edmonton face-to-face sample with past EAS studies, a sample size of 400 or more was deemed necessary. This would also permit Edmonton to be analyzed as a separate entity. On the other hand, the sample sizes for Calgary and Other Alberta were primarily determined by budgetary constraints. However, at the same time a minimum sample size was

sought to permit separate analysis for these two areas.[1]

FACE-TO-FACE POPULATION - Edmonton

The 1988 Edmonton population universe was designated as all persons 18 years of age or older who at the time of the survey were living in a dwelling unit that was enumerated during the City of Edmonton Civic Census in the spring of 1987.

FACE-TO-FACE SAMPLE SELECTION - Edmonton

As in previous Edmonton Area Studies, the sampling frame consisted of a computerized list of addresses compiled by the City of Edmonton from their most current enumeration (1987). From the computer tape, a simple random sample of 620 addresses for personal interviewing was selected. Nursing homes, military and temporary residences were deleted from the sample. Within the household, one eligible person was selected as the respondent for the one hour interview.

Interviewers were instructed to obtain an equal number of male and female respondents within their allotment of interviews. As adult males are generally more difficult to contact, the following selection procedure guidelines were set for the interviewers to assist them in obtaining their quotas.

a. The dwelling unit must be the person's usual place of residence and he/she must be 18 years of age or older.

b. If an adult male answers the door and is willing to be interviewed, he is the respondent.

c. If an adult female answers the door and there is an adult male present who is willing to be interviewed, interview the male. If the male is not willing to be interviewed,

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1. See Table 3 for final sample sizes obtained.

and the female is willing, interview the female.[2]

d. If an adult female answers the door and there is no adult male present, choose her as the respondent.

The final sex breakdown of the sample, using the above procedures, was 49.1% male and 50.9% female.

TELEPHONE POPULATION - Calgary and Other Alberta Areas

The population universe designated for telephone interviewing was all persons 18 years of age or older who, at the time of the survey, were living in a dwelling unit in Alberta outside of the City of Edmonton that could be contacted by direct-dialing. From this population, two samples were drawn to cover the area: the first one represented the City of Calgary, and the second represented the remainder of the region.

TELEPHONE SAMPLE SELECTION - Calgary

The three-digit prefixes of the exchanges in Calgary were assembled to generate seven-digit telephone numbers. This was done in two stages: First, an exchange was randomly selected, then a four-digit random number between 0000 and 9999 was selected and appended to the three-digit number of the exchange. This process was repeated to obtain as many telephone numbers as needed. Any duplicates were discarded. The telephone numbers were then checked against the most recent edition of the "Calgary Numerical and Street Address Directory" to eliminate businesses and numbers in non-existent telephone banks.[3]

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2. Fifty-five percent of the first eligible persons encountered were female. In households where a completed interview was obtained, 90% of the first eligible persons accepted.

3. It was not difficult to discern precisely the working banks as the telephone numbers are in ascending order. From 1500 random telephone numbers generated, 414 (28%) were not in working banks or businesses etc.

TELEPHONE SAMPLE SELECTION - Other Alberta Areas[4]

The three-digit exchange prefixes were not used for selection for "Other Alberta Areas" since no "reverse directory" was available for these areas to screen out the large number of non-working numbers that would be generated. Therefore, a different approach was implemented to reduce the occurrence of non-working numbers.

Over the past two years the PRL has developed a computer file of telephone numbers from these areas from Alberta Government Telephones (AGT) directories. This file represented 13 percent of the total telephone numbers in the sampling area at the time of survey.[5]

The file has been updated by selecting random pages from newly issued directories, and recording a fixed percentage of the total number of columns of telephone numbers in a computer file.[6] By stripping off the last two digits of each telephone number and eliminating any duplicates,[7] a new file of five-digit working banks of telephone numbers was created. These working banks were then added to the previously existing bank file, and duplicates were again eliminated. This new file was then used for randomly generating the actual telephone numbers for the study.[8]

The sample of telephone numbers was generated by selecting with replacement a simple random sample of five-digit banks, and appending a random

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4. Does not include the cities of Calgary and Edmonton.

5. The total number of telephone numbers extracted was 65,054.

6. The IBM PC spreadsheet package LOTUS 1-2-3 version 2.01 was used to select the random pages and the number of columns to extract.

7. Pay-phone numbers in the province have a "9" as the fourth digit e.g. 484-9xxx. Although no residences or businesses are supposed to have the fourth digit as "9", a cursory check of the directories revealed that there were enough to warrant not screening out such numbers.

8. The total number of five digit banks were 7724, derived from 65,054 random telephone numbers.

number between 00 and 99 to each of them. All duplicated numbers were discarded.

As with the face-to-face interviewers, the telephone interviewers were given instructions to obtain an equal number of male and female respondents. Again, as adult males are generally more difficult to contact, the selection procedure guidelines were exactly the same as they were to the face-to-face interviewing.

The final sex breakdown of the samples, using the above procedures, was:

	Male	Female
Calgary	47.6%	52.4%
Other Alberta	47.8%	52.2%

THE QUESTIONNAIRES

Two questionnaires were used for the Study, one for the face-to-face component and one for the telephone component. All the telephone questions (modified slightly for suitable administration over the telephone) were taken from the face-to-face instrument, which was about twice the length of the telephone questionnaire. No response categories or scales were altered.

The questionnaires contained a wide variety of questions reflecting the specific research interests of the many University researchers and outside agencies participating in the Study. However, as in previous years, about 10% of the questions also covered a special topic, in this case, "Coping with the Recession." A number of questions are replications from previous questionnaires (see the Appendix for a complete listing of all the areas covered). Both questionnaires were pretested on a total of fifty-nine Edmonton householders, and necessary modifications were made before actual interviewing began.

DATA COLLECTION

FACE-TO-FACE DATA COLLECTION - Edmonton

A total of 38 trained interviewers from the PRL interviewing pool conducted the interviews which began February 4th. In the week prior to the commencement of the fieldwork, an introductory letter was sent to each selected address. It briefly described the nature of the study and advised the residents of the household that they should expect a visit from an interviewer in the near future.

If the interviewers were unsuccessful in establishing contact on their first visit, they were to make four callback attempts before declaring an address as "no contact."

Data collection took six weeks with 70% of the interviewing being completed during the first two weeks. Monday had the highest number of completions while Friday had the fewest completions. The average interviewer completed 21 interviews. Thirty-six addresses were found to be ineligible, vacant or demolished buildings. Only these addresses were replaced by another random selection since these were defects in the sampling frame rather than non-response addresses. No other replacements were made.

A random sample of completed interviews (15%) were verified through a series of checks which included re-contacting respondents by telephone. Any significant discrepancies or irregularities were investigated and rectified.

TELEPHONE DATA COLLECTION - Calgary and Other Alberta Areas

The telephone interviewing began at the end of January and was completed by the end of February. Interviewing for the City of Calgary was supervised locally, with a total of nineteen experienced interviewers conducting the interviews. For the "Other Alberta" portion of the telephone interviewing,

ten interviewers did the long-distance calling from the University of Alberta using a "WATS" line.

If the interviewers were unsuccessful in establishing contact on their first call, they were to make ten callback attempts before declaring a telephone number as "no contact." Upon making contact, the interviewer identified herself, verified the telephone number, and then asked the screening questions for selecting the respondent.

The telephone data collection took four weeks, with 52% of the interviewing being completed during the first two weeks. The average interviewer completed 46 interviews. Forty percent of the completed and refused interviews were verified. Any significant discrepancies or irregularities were rectified.

Tables 1 and 2 show the percentage of the interviews obtained according to the number of callbacks and other data collection statistics for the three samples, with comparisons to 1987 results.

TABLE 1

Callbacks for Telephone and Face-to-Face Samples

Number of Callbacks	Other Alta Telephone		Calgary Telephone		Face-to-face Edmonton	
	1987	1988	1987	1988	1987	1988
0	40%	30%	29%	26%	32%	25%
1	26	22	25	25	31	30
2	11	16	16	16	18	20
3	8	11	10	12	11	10
4+	16	21	20	21	9	16
	101%	100%	100%	100%	101%	101%*

* Total does not equal 100% due to rounding error.

TABLE 2

Data Collection Summary

	Telephone Other Alberta		Telephone Calgary		Face-to-Face Edmonton	
	1987	1988	1987	1988	1987	1988
Interviews conducted on 1st contact	[40]%	30%	[29]%	26%	[32]%	25%
Interviews started before 6 pm weekdays	[65]%	62%	[52]%	43%	[57]%	41%
Interviews completed Monday to Friday	[75]%	70%	[78]%	75%	[74]%	74%
Interviews obtained without appointment	[83]%	67%	[73]%	72%	[55]%	51%
Response rate	[81]%	80%	[77]%	73%	[76]%	80%
Median interviewing time in minutes	[26]	30	[27]	33	[58]	55
Sample size	[347]	433	[244]	372	[454]	464

From Table 2 the final response rates for the three samples were: 80.2% for Other Alberta, 72.9% for Calgary, and 79.5% for Edmonton.

Table 3 shows the final result of the initial sample selections.

TABLE 3

Breakdown Dispositions of Original Samples

	Tel. Other Alta	Tel Cal	Face-to-Face Edm	Tel. Other Alta	Tel Cal	Face-to-Face Edm
	Actual			%	%	%
Original Sample drawn	1023	940	620	100.0	100.0	100.0
Deduct:						
non-residential/ ineligible	-138	-151	-07	13.5	16.1	1.1
not in service/ vacant/demol.	-342	-279	-29	33.4	29.6	4.7
2nd residence	-3			0.3		
Corrected Sample	540	510	584	52.8	54.3	94.2
Distribution of Corrected Sample						
completed interviews	433	372	464	80.2	72.9	79.5
no answer/contact	25	48	35	4.6	9.4	6.0
refused	74	76	82	13.7	14.9	14.0
language problem	5	14	3	0.9	2.7	0.5
illness	3	-	-	0.7	-	-
Total	540	510	584	100.1	99.9	100.0

CALCULATION OF WEIGHTS

The final sample obtained for each area is not proportional to the Alberta population it represents. For instance, Edmonton is over-sampled (Table 4). Edmonton makes up only 24% of the Alberta population but has 37% of the interviews. Therefore, in order to combine the samples for a

provincial sample, weighting was necessary.[9] The following table contains the information used to calculate the weights.

TABLE 4

Calculation of Weights

	Population 1987	Percent of Pop.	Sample Size	Percent of Samp.	Weight Factor	Weighted Sample
Edmonton	576,249	24.1584%	464	36.5642%	.660709	307
Calgary	647,285	27.1364	372	29.3144	.925702	344
Other Alberta	1,161,766	48.7052	433	34.1214	1.427409	618
TOTAL Alberta	2,385,300	100.0000%	1269	100.0000%		1269

THE DATA

The raw data file exists in card image format[10] and is stored on magnetic tape. The data were tabulated and cleaned in accordance with generally accepted survey research practices using SPSSx (Statistical Package For The Social Sciences) and microcomputer programs developed by the PRL. The rectangular data set contains 390 variables for each case. There are a total of 1269 cases with 9 decks per case. A SPSSx systems file with labels has been created to analyze the data. In tabulating the data, the two questionnaires were coded in exactly the same manner to permit merging of the data without adjustments.

Access to the data has been restricted (until January 1, 1989) to

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9. If the samples are being analyzed individually, then no weighting is necessary; for example, if the researcher is only interested in the Edmonton responses. In the SPSSx program prepared by the PRL the weighting variable has been inserted. To turn off the weighting insert: WEIGHT OFF.

10. Up to 80 columns per record.

agencies and persons participating in the survey.

DEMOGRAPHIC PROFILE

Table 5 presents some of the major demographic characteristics of the 1987 and 1988 AAS samples. Household size distributions for the three samples are given in Table 6.

TABLE 5

Demographic Profile of 198 and 1988 AAS Respondents

Demographic Characteristics	Other Alta		Calgary		Edmonton	
	1987	1988	1987	1988	1987	1988
	PERCENTAGES					
MARITAL STATUS						
single	15	16	25	23	21	28
married/common-law	71	69	61	62	58	54
divorced/sep/widowed	15	15	14	15	21	18
RELIGION						
Protestant	64	65	50	53	46	45
Roman Catholic & Other Catholic	22	21	25	20	31	24
Other	2	1	3	3	5	5
No Preference/affiliation	12	14	23	25	18	26
LEVEL OF RELIGIOSITY						
strong	35	32	33	34	33	37
not very strong	50	55	58	52	55	53
somewhat strong	15	13	9	15	12	11
EDUCATION (years of schooling)						
less than 12 years	37	29	16	20	31	24
12-15 years	50	55	54	50	49	50
greater than 15 years	13	16	30	30	20	26
DWELLING UNIT						
single-detached house	77	76	58	64	54	55
multiple family apartments	9	10	21	17	29	29
row/townhouse	3	3	9	10	9	10
semi-detached/duplex	4	4	11	7	6	3
other types	7	8	2	2	2	2
EMPLOYMENT STATUS						
full-time	49	51	51	55	48	52
part-time	13	18	14	13	12	11
other (e.g. keeping house etc.)	38	31	35	32	40	38
HOME OWNERSHIP						
own	74	72	58	64	54	53
rent	26	28	42	36	46	47

continued ...

	Other Alta		Calgary		Edmonton	
	YEARS					
	1987	1988	1987	1988	1987	1988
AGE (median)	40	37	33	35	38	34
	DOLLARS					
	1988		1988		1988	
INCOME (median)[11]						
household	39,000		36,500		31,700	
respondent	17,200		20,900		19,100	

TABLE 6

Household Size Distributions for the
Telephone and Face-to-Face Samples

Household Size	Telephone Other Alberta		Telephone Calgary		Face-to-Face Edmonton	
	1987	1988	1987	1988	1987	1988
1 person	16%	14%	19%	17%	24%	28%
2 persons	31	30	31	34	28	31
3 persons	22	18	18	19	19	19
4 persons	20	21	23	19	17	15
5 persons	8	13	7	8	8	6
6 persons	2	3	2	2	2	2
7+ persons	1	2	0	1	1	1
Total	100%	101%	100%	100%	99%	102%

11. Rounded off to the nearest hundred dollars.

SAMPLE REPRESENTATIVENESS

The 1987 and 1988 AAS age distributions and marital status distributions are compared to the most current Statistics Canada data in Tables 7 and 8 respectively. The the indexes of dissimilarity[12] for each Table demonstrate that AAS samples have adequately reflected the Alberta population.

TABLE 7

Age Distributions for
Alberta* and AAS

	ALBERTA 1987	AAS 1987	AAS 1988
20-29 years	28.4%	26.5%	27.7%
30-39 years	26.0	26.8	30.3
40-49 years	16.3	18.1	16.1
50-59 years	12.1	11.0	10.1
60+ years	17.1	17.7	15.8
TOTAL	99.9%	100.1%	100.0%

Indexes of Dissimilarity:
between Post-Censal estimate and AAS 1987: 3.1
between Post-Censal estimate and AAS 1988: 4.3

*Statistics Canada. "Postcensal Annual Estimates of Population by Age, Sex and Components of Growth for Canada, Provinces and Territories, June 1, 1987."

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12. The index represents the proportion of households that would have to move to a different category to make the distributions identical. The index can vary from 0 to 100. Any index less than 10 indicates that the distributions are similar. Source: Duncan, O.D., and Duncan, B. "Residential Distribution and Occupational Stratification." American Journal of Sociology, 60(5):493, March 1955.

TABLE 8

Alberta* and AAS Marital Status Distributions For
Respondents 20 Years of Age or Older

	ALBERTA 1986	AAS 1987	AAS 1988
SINGLE	19.1%	16.2%	20.9%
MARRIED**	70.8	70.4	66.8
DIVORCED	5.4	7.1	6.4
WIDOWED	4.7	6.4	5.9
TOTAL	100.0%	100.1%	100.0%

Indexes of Dissimilarity:
between Census and AAS 1987: 3.4
between Census and AAS 1988: 4.0

*Statistics Canada. "Population and Dwelling Characteristics: Age, Sex and Marital Status, Census Canada, 1986." Cat. 93-101.

**Includes persons now married, separated (legally orotherwise but not divorced) and persons living in common-law unions.

AAS & EAS TIMETABLE

4th week of September - deadline for question submission

2nd week of November - pretest questionnaire finalized

3rd week of November - pretest

3rd week of December - questionnaire finalized

1st week of February - interviewer training

February and March - data collection

April and May - coding, data entry, and data cleaning

June 30th - data ready for analysis

Those persons and organizations who are interested in submitting questions for the 1989 project on a time-sharing basis should contact the Director of the PRL before the end of September (1988).

APPENDIX A

SELECTED TOPICS INCLUDED IN THE 1988 AAS AND EAS

1. Demographic Characteristics of Population

   Age, sex, marital status, education, income, religion, ethnicity, and occupation

2. Health

   a. use of health services
   b. non-prescription drugs
   c. alternative health treatments/vitamin, mineral, herbal preparations
   d. alcohol consumption and smoking behaviour/attitudes
   e. eating attitudes and habits

3. Social Interaction

   a. friends and family
   b. marital roles and satisfactions
   c. gender roles

4. Alberta Economy/Coping With The Recession

   a. experiences of job loss and financial problems
   b. assessments of Alberta economy and government

5. Crime and Policing

   a. victimization
   b. neighbourhood safety
   c. assessments of policing

6. Education

   a. attitudes to post-secondary education
   b. use of continuing education

7. Other Issues

   a. fertility
   b. political party preference
   c. personal finances and management
   d. religious views and activities
   e. free trade
   f. discrimination
   g. abortion
   h. television viewing
   i. road safety and personal travel